1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34
Sierra Tarascans
[p. 4a]

000 gave much time and effort to forward the program. Dr. Alfonso Caso discussed many problems and gave valuable advice. Numerous members of the staff of the Instituto Politécnico Nacional also gave of their time. President Robert G. Sproul of the University of California, arranged a special leave of absence to make the study possible. Above all, thanks are due to Dr. D. F. Rubín de la Borbolla, then head of the Department of Anthropology of the Instituto Politécnico Nacional and now director of the Escuela Nacional de Antropología, collaborator in the general program, who gave many days of his time in completing necessary arrangements to make the study possible.

In addition to the persons mentioned, I wish also to express my gratitude to those who have helped further the general Program of Anthropological Investigations among the Tarascans: General Lázaro Cárdenas, former President of the United States of Mexico; Dr. A. L. Kroeber, of the University of California, Berkeley,

[continued on top of p. 4b]

THE SETTING AND THE PEOPLE

131 The modern Tarascans occupy the west central section of northern Michoacán, Mexico. In prehistoric times the Tarascan area was larger, including most of the State of Michoacán, except possibly the rather abrupt and not very hospitable seacoast, as well as parts of the State of Jalisco to the northwest, Guanajuato to the northeast, and the lower end of the Balsas River basin in Guerrero to the south. This expanded area apparently represented the results of a series of conquests. Two or three centuries before the arrival of the Spaniards, the Tarascan area probably was not greatly different from that of today.

161 The State of Michoacán is one of the most densely populated rural States of Mexico. It lies to the west of Mexico City, and its capital, Morelia, is about 250 miles from the National Capital by road or railroad. Despite its dense population, much of the State is rugged and mountainous. Its eastern and northern parts

133 are on the plateau of México. Level areas are often above 7,000 feet elevation, but, although it is technically a part of the Central Mexican plateau, only the northern margins of the State

[continued in middle of p. 4b]

1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34
Sierra Tarascans
[p.4b]

000 Calif.; Dr. John M. Cooper, Catholic University of America, Washington, D. C.; Sr. Luis Chávez Orozco, former Chief, Departamento de Asuntos Indígenas, Mexico; Dr. Gerardo Varela, Director of the Escuela Nacional de Ciencis Biológicas, Mexico; Lic. Gilberto Loyo, Director General of the Census, Mexico; Dr. J. B. Lockey, former Chairman, Board of Research, University of California, Los Angeles; Dr. Vern O. Knudsen, Dean of Graduate Studies, University of California, Los Angeles; and the late Dr. Charles B. Lipman, Dean of Graduate Studies, University of California, Berkeley.

The excellence of the drawings is due to the intelligent cooperation and skill of Virginia More Roediger, who worked not only as an artist but as an illustrator.

Finally, I gratefully acknowledge the assistance of the Institute of Social Anthropology, Smithsonian Institution, for editing this manuscript and for publishing it in this series, which is devoted to inter-American cooperation.

THE SETTING AND THE PEOPLE

133 have large level tracts, for most of the elevated part of the State is in the so-called "volcanic axis" of Mexico. In many regions, and this is particularly true of the area occupied by the Tarascans, the characteristic sky line is a series of old volcanic cones, often surrounding basins or long depressions, in which more recent low cinder cones frequently occur (pl. 1, upper and lower left). Dozens of peaks have elevations of over 10,000 feet, but only one may exceed 11,000 feet.

To the south and southwest the terrain drops sharply toward a great basin formed by tributaries of the Balsas River. The slope is steep and so thoroughly dissected by streams that, despite the opening of many roads and truck trails in recent years, it still is not possible to reach the Balsas River by road from highland Michoacán. This great basin forms an important portion of Michoacán and is much visited by the Tarascans. Tropical vegetation and climate characterize the basin except for a semiarid section in the west.

[184] [137] [132]

The Pacific coast of the State is paralleled by a large range of mountains, the Sierra de

1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34

133 Coalcomán, which again reaches elevations of over 10,000 feet. The rain shadow of this [132] range accounts for the subarid conditions of part of the basin area. Although these mountains are little known, apparently they rise fairly steeply on both faces and the coastal area beyond is narrow and of little use.

The drainage of Michoacán presents some peculiarities. In the north and west central region are lakes of various size, of which perhaps the best known is Lake Pátzcuaro. In common with some other lakes in the area, Lake Pátzucuaro has no outlet, but its waters are nevertheless not brackish. The high porosity of the volcanic soil may account for this phenomenon, for the lake has evidently been isolated from other drainages for a long period of time. This isolation is attested by the fact [136] that the native fish are all very primitive viviparous species.

[132] Moreover, despite heavy rainfall in some areas (at Lake Pátzcuaro the average annual rainfall is around 60 inches), there are virtually no permanent streams and even springs are rare. Most Tarascan towns suffer from [312] almost constant water shortage despite the heavy precipitation. In contrast, some of the lower lands have abundant large running streams. In places, underground springs of great size emerge at elevations of about 5,500 feet. Near Uruapan, for example, a large stream is formed by a group of such springs.

131 The present-day range of the Tarascans cannot be defined with great accuracy, partly be- 101 cause of the lack of detailed studies and partly because of the degree of acculturation undergone by many settlements. Villages which outwardly differ in no visible respect from well-known Tarascan settlements often contain no persons speaking Tarascan. All around the edges of Tarascan territory occur villages in various degrees of assimilation to Mexican culture and with various degrees of physical mixture with the Mestizo population. As a result, the present-day distribution of the Tarascans can only be approximated (map 1).

On the east, the basin of Lake Pátzcuaro is definitely Tarascan, although some towns, such as Tzintzuntzan, the traditional capital of the Tarascan "Empire," are no longer Tarascan-speaking. The western edge of Tarascan ter-

1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34

[p. 7a]

West of Lake Pátzcuaro and south of La Cañada is the rugged area known as La Sierra, extending as far west as the town of Tinguindín. This region is relatively homogeneous, with an essentially temperate climate. Although the elevation of towns varies from about 6,000 feet to about 9,000 feet, generally the temperature is cool. Heavy rainfall and the presence of numerous 10,000-foot peaks apparently combine to prevent cultivation of most subtropical plants. Extensive steep, forested slopes and lava flows are interspersed with numerous valleys and depressions in a high state of cultivation. Only in the west, where rainfall apparently is less, are a few towns favored by a milder climate. South of La Cañada and about equidistant from Uruapan, Zacapu, and Pátzcuaro is Cherán, largest of the mountain Tarascan towns and, until very recent years, one of the most isolated.

Situated on a sloping bench, Cherán looks westward over a long depression, dotted with villages and interrupted here and there by cinder cones rising as much as a thousand feet above the depression (pl. 1, upper and lower, left). North and south of Cherán, the series of peaks which bound the depression to the west culminate in two 10,000-foot cones. Eastward is another smaller basin of fertile soil, similarly marked by cinder cones and by the striking isolated volcanic peak of El Pilón, also over 10,000 feet in height.

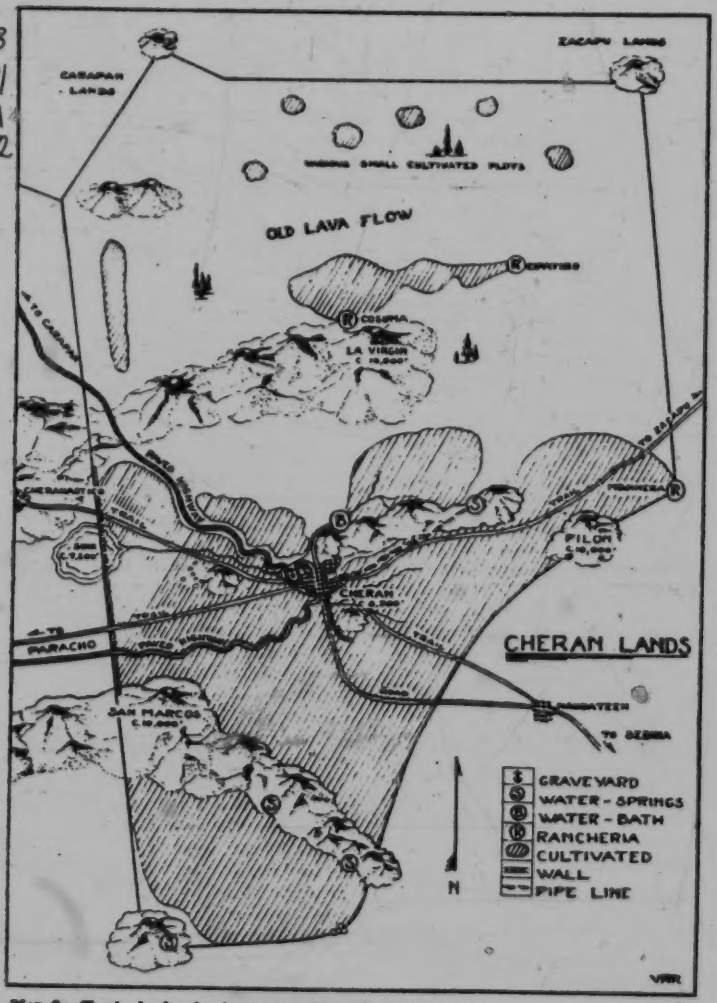
Except for occasional marginal farm clearings, the steeper slopes, and those areas where relatively recent lava flows make cultivation impossible, are covered with forest. The predominant species are three or four types of pine, but completely pure stands are rarely found. Usually there is a fair intermixture of oak and madroña, while, beginning at the level of Cherán, fir trees occur and increase in number at higher elevations. These forest lands provide one of the important resources of the Cherán population.

Wherever the land is sufficiently level to permit regular cultivation, the forest has been almost entirely cleared away. In many places, areas hundreds of acres in extent are continuously cultivated. Maize and, to a much smaller extent, wheat, are almost the only field crops. Cultivation of these, plus exploitation

1: Beals E-5 (1940-1941) 1946

NU34 Tarasco NU34
Sierra Tarascans

133
491
311
632



Map 2.—Cherán lands, showing topography, principal cultivated areas, and various cultural features.

[p. 8]

1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34
Sierra Tarascans

MAIZE

241 Except in the garden plots and a few other highly favored places, corn is never planted on the same ground on two successive years. Garden plots are more carefully cultivated and are fertilized to some extent by depositing organic refuse of all kinds and, if available, manure. Good farmers will even carry surplus manure
241 to the fields, but some are lazy and simply
133 throw it in one of the arroyos. It is then carried down to the "plain" west of town. As a

[p. 22a]

1:Beals E-5 (1940-1941)1946 NU34 Tarasco NU34
Sierra Tarascans

133 result, a part of the "plain" where the water
241 sinks into the ground can be farmed every year.

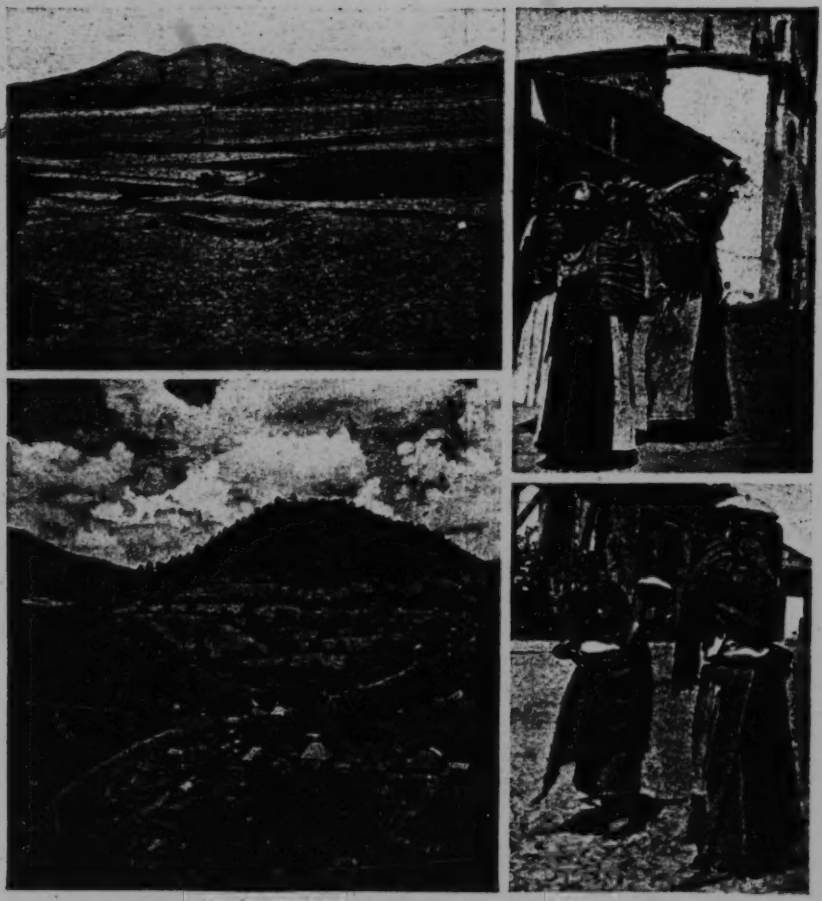
The basin, of which the "plain" forms a part, has no outlet. So porous is the volcanic soil that streams run only briefly after heavy rainfall. The drainage of the entire basin collects on the Cherán–Aranza boundary, where it sinks into the soil within a few hours after a storm. The entire sink area is cultivated and is highly
241 fertile. No rotation of crops is ordinarily practiced on the plain; but in the mountains,

[Text continues on page 23 a]

[p. 22b]

1: Beals E-5 (1940-1941) 1946 NU34 Tarasco NU34
Sierra Tarascans

133
311
361
415
482



CHERÁN LANDSCAPES AND METHODS OF CARRYING OBJECTS.

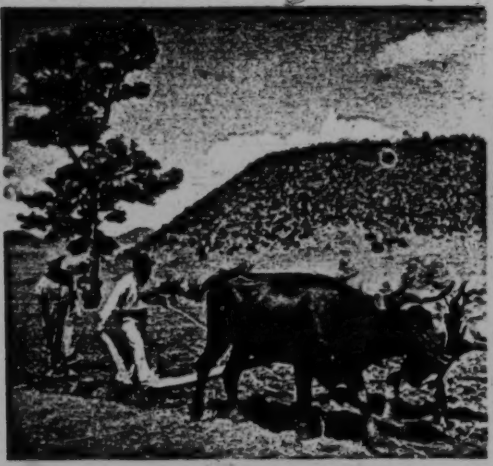
Upper (left): The plains below Cherán, the major agricultural area, about 7,000 feet elevation, viewed from the highway, near southeast corner of the town. Darker portions are plowed fields; the remainder not yet plowed. *Upper (right):* Women carrying water in typical manner, with the usual Cherán water jar. A method of wearing the *rebozo* is shown. The church and priest's residence are in background. *Lower (left):* The northwest *barrio* of Cherán. The new highway curves along the edge of the barranca. Typical cultivated fields slope gently up to the cinder cone, which rises 1,000 feet above the town. *Lower (right):* Carrying bowls of masa (corn ground for tortillas) from the mill. Carrying on the head is unusual, but the method used by the girl is common for small objects. The woman's skirt has the thick pleat or rollo.

[End Plate 1]

1: Beals E-5 (1940-1941) 1946

NU34 Tarasco NU34
Sierra Tarascans

241
492
133
137
313



417
342

291
443
516

PLOWING. DITCHES TO PROTECT FIELDS. LOG HEWING. AND CHERÁN PLAZA DURING FIESTA.

Upper (left): Plowing on the plain. Augustín, at the plow, wears felt hat, shirt, trousers, belt, and shoes; workman at left, less acculturated, wears straw hat, sandals, and mechanic's overalls. *Upper (right):* Squaring a log with an ax before sawing it into planks. *Lower (left):* A hill-slope field, with new ditch (center) and overgrown bank surmounted with thorny brush (foreground) to protect it from animals. Agaves are planted on right of ditch. *Lower (right):* Portion of Cherán plaza during the fiesta of the patron saint.

[End Plate 4]

for thirty or fifty years at very low rents, so the Indians were actually left without land. This is reported to have happened in about fifty towns.[27]

The above information does not specify which towns lost their lands. The only concrete case cited is that involving the *jefe político* of Uruapan, a district which includes several Indian villages. Unfortunately, no more information is available.

At the beginning of the Revolution, then, haciendas were found in the more level and warm areas north of the Sierra and Lake Pátzcuaro, on the southern shore of Lake Pátzcuaro, and also south of the present Tarascan region on the slopes toward the hot country. No hacienda has been studied nor is this the environment wherein the changes discussed in this paper take place. The present Tarascan-speaking area has not been dominated by haciendas, but is one of those where the towns of Indian peasants and artisans have survived longer, no matter what changes in land tenure occurred within the village.

The main reason for the preservation of Indian communities seems to be that this area was less desirable for the hacienda type of exploitation. The mountainous character, forests, and cold climate did not make it suitable for the introduction of cattle or cash crops in large estates.[28]

The necessary background for our problem refers to the developments within the Indian villages in relation to the haciendas and to the individualization of land tenure as it took place from the late nineteenth century to the present time.

The changes within the surviving Indian towns can be described from two points of view: (a) disrupting factors making for conflict within the village and breaking the solidarity of the villagers against outsiders; (b) the basic conservatism of the villages, i. e., the survival of fundamental economic conditions which tend to preserve the existence and internal solidarity of the villages.

The main disrupting factor is that of property differences within the village. As pointed out by Tannenbaum[29] for Mexico at large, the villages do not have sufficient land for the needs of all their inhabitants, and considerable differences as to property in land exist within the community, some people owning an adequate amount (according to local standards of living), some

27. Castillo, 1915, 144-5; also cited in Phipps, 1925, 119-120.
28. West, 1948, 17.
29. Tannenbaum, 1929, 56-60.

342 where Mestizo influence is marked. Nevertheless, in some towns, such as Capacuaro, almost the only nonwooden structure is the church. Structures of wood also occur in the other districts, although they are relatively rare.

The difference in materials used apparently has a geographic basis. The Sierra region has abundant forests, while often lacking sufficient water to permit easy manufacture of adobes or

[continued on p. 7b]

The Town of Cherán THE TOWN

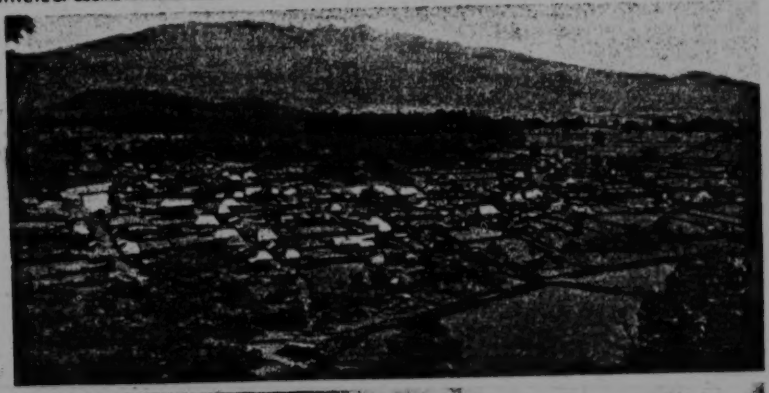
361 The town of Cherán lies at the head of a broad
133 valley about 1,300 feet (400 m.) above the valley floor at an elevation of 8,500 feet (2,500 m.) (pl. 1, lower). The terrain slopes rather steeply toward the west. A small ravine forms the western half of the south boundary of the town; the eastern half of the south boundary lies beyond the ravine. A much larger ravine forms the north boundary of the town. A branch of this ravine runs through the town and partly isolates the northeast *barrio*, or *cuartel*. Springs at the bottom of this ravine
[312] afford part of the water supply. A pipe-and-wooden-trough system also brings water from a spring 9¾ miles (15 km.) away to cement tanks in the approximate center of the town as well as to a fountain in the plaza, which lies north of the center.
[135] At the northeast is a small cinder cone, which affords most of the stone used for buildings and fences. The town encroaches on the slopes of the cone on the east and south. The northeast *barrio*, or *cuartel*, climbs part way up the slopes of another cinder cone.

343 Most of the streets of the town are oriented to the cardinal directions, and the central part of town is subdivided into rectangular blocks. In some sections irregularities of the terrain have led to modifications of the block plan; in these sections streets may follow the curving contours. Streets vary in width from mere pathways to about 40 feet (12.2 m.). In the heart of town they are often paved with small cobblestones and have a central drain or gutter. Stone-paved sidewalks are common in the middle of town. The main north-south street is traversed by the Carapan-Uruapan highway and was paved with oil macadam in 1940.

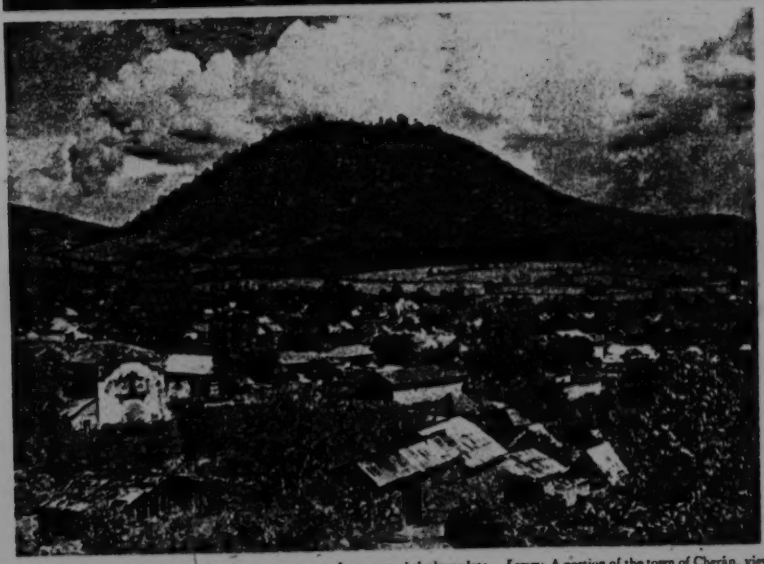
[p. 7a] [continued bottom of page 7-b]

3: Beals, Carrasco & McCorkle E-5 (1940-1942)1944 NU34 Tarasco NU34
Sierra Tarascans

361
133



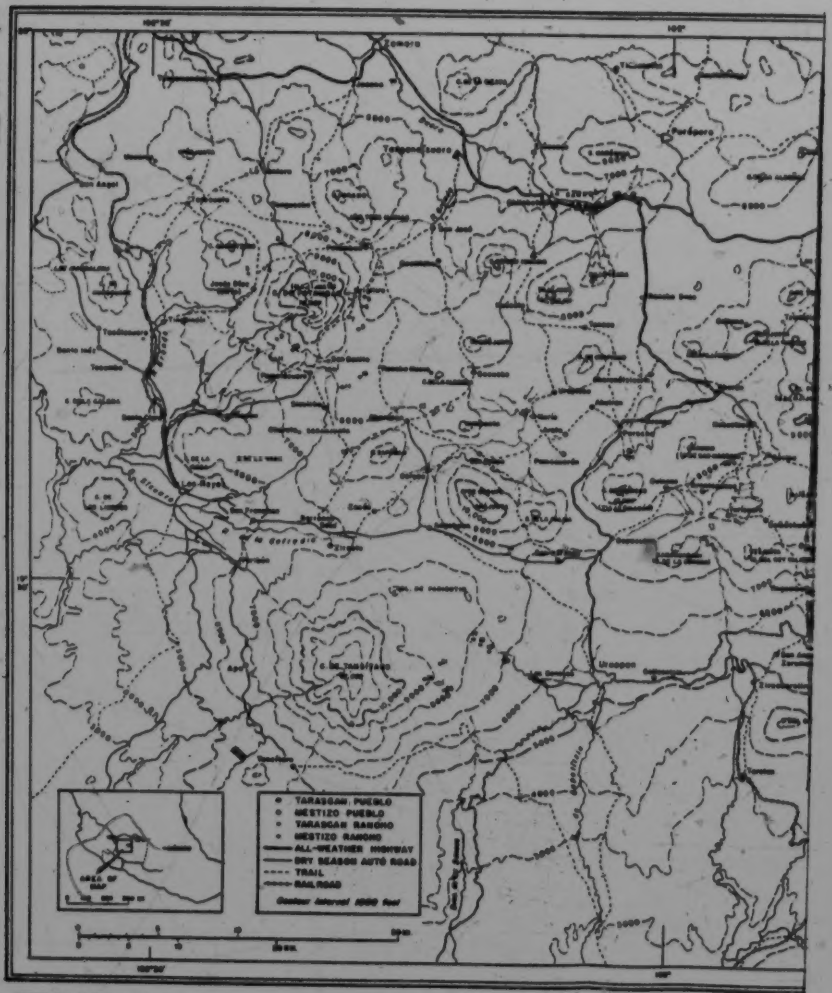
[342]



Upper: Angahuan, showing the rectangular arrangement of streets and the large lots. *Lower:* A portion of the town of Cherán, viewed from the hill in the northwest section, which furnishes most of the stone used in building.

[End plate 1]

102
131
133
487



MAP 1.—Topographic map of the modern Tarasc

[Facing page 1; section A]

102
131
133
487

Topographic map of the modern Tarascan area.

[Facing page 1; section B]

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 1-B]

191 The present territory of Tarascan speech con-
131 sists of a relatively small area (about 3,500 sq. km.) in northwestern Michoacán. Approximately, the modern area extends eastward from the Zamora-Los Reyes railroad to the east shore of Lake Pátzcuaro, and southward from the México-Guadalajara highway to a line drawn between Pátzcuaro and the peak of Tancítaro (map 1).[1] A few small islands of Tarascan-speaking folk exist south of the main area. Within the present
[161] area nearly 55,000 individuals of indigenous speech live in 66 Tarascan pueblos and 50 ranchos.

131 Four geographical regions comprise the modern
101 Tarascan area. (1) The Sierra (called by the Tarascans Sierra or Siériš) is the largest of the regions, the main portion of which extends westward from Lake Pátzcuaro to slightly east of the Zamora-Los Reyes railroad.[1a] The northern

---

102 [1] Map 1 is based on an enlarged portion of sheet 642A (Uruapan) of the
131 AAF Preliminary Base, 1:500,000. This sheet was compiled by the U. S.
133 Aeronautical Chart Service in January 1945 from AAF trimetrogon photography taken in December 1942. Positions and names of topographic features which appear on the accompanying map were checked on the ground during the spring of 1946. Some errors were encountered on the original map: misnamed localities (e. g. Ajuno), small errors in routes of highways and railroads, mistakes in elevations. Drainage was found to be fairly correct. On map 1 only the more important trails are indicated. Numbered localities refer to the following ranchos:

1. Guerschanillo.	14. San Marcos Arachúcuta.	27. Patambicho.
2. Aranza.	15. Huancho.	28. Ojo de Agua.
3. Las Trojas.	16. Las Cocinas.	29. Ichupio.
4. Las Cañas.	17. San Nicolas.	30. Tarerio.
5. El Venado.	18. La Alberca.	31. Uessanástacua.
6. Tapan.	19. La Atascada.	32. La Vinata.
7. Tierras Blancas.	20. El Rosario.	33. Las Granadas.
8. La Mesa.	21. El Tepemal.	34. Yunuén.
9. La Tinaja.	22. Tepetate.	35. Tecuena.
10. Querendaro.	23. Tejamanil.	36. Urandén Morelos.
11. Zarzamora.	24. Pacápatiro.	37. Urandén Morelos.
12. San Luis Serena.	25. Chupícuaro.	38. Urandén Curian.
13. La Jolla.	26. Opongnio.	39. El Padre.

The following Tarascan ranchos (listed in the official 1940 census) are not located: Trintricha (municipio of Chilchota); Agua Escondida (municipio of Tangancicuaro); Las Encinillas and Los Laureles (municipio of Tangamandapio); La Providencia and El Tropezón (municipio of Los Reyes); El Tejocote (municipio of Paracho); Revolución (municipio of Erongaricuaro); and Itziparámuco (municipio of Tzintzuntzan).

[1a] On modern maps the high area west of Lake Pátzcuaro is termed "Sierra de los Tarascos." In colonial documents the area was usually called "Sierra de Michoacán."

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 2-a]

zone around Parícutin Volcano, are the remaining predominantly Tarascan settlements in the *tierra templada*, the upper part of the plateau escarpment (2 percent of Tarascan population in 1940). Formerly an important part of the Tarascan Empire, the hot lands of the Tepalcatepec and Balsas Basins (*tierra caliente*, Jurío) have lost completely the last vestige of spoken Tarascan.

A small number of Tarascan-speaking folk live in some of the larger mestizo towns adjacent to the main Tarascan area: Uruapan, Pátzcuaro, Coeneo, Zacapu, Zamora. With the possible exception of a few old households in Uruapan, the presence of aboriginal speech in the large mestizo settlements probably represents a recent influx from rural areas (a desire for urban life, migration from the volcano-devastated areas) rather than linguistic remnants.

THE PHYSIOGRAPHIC AREAS

The Sierra.—The Tarascan "Sierra" is not a mountain chain; it is rather a volcanic plateau, whose average elevation is some 1,500 feet higher than that of the surrounding areas and whose surface has been roughened by large composite volcanoes, scores of small cinder cones, and extensive lava flows (*malpaís*). Lying within Mexico's transcontinental volcanic axis, the Sierra is the locale of the country's newest active volcano, Parícutin.[3] Within the central part of the area elevations range from 6,900 feet to over 12,660 feet (Cerro de Tancítaro). The altitude of the plateau increases from west to east. Elevations of towns in the western half of the Sierra range from 5,180 feet (Atapan) to 7,800 feet (Pamatácuaro); in the eastern half, from 8,040 feet (Sevina) to 8,460 feet (Cumachuén), the highest pueblo in the Sierra west of Lake Pátzcuaro. Even higher settlements (e. g. the rancho of Cruz Gorda, 8,987 feet) exist southeast of the lake, and the highest point in Michoacán, the Cerro de San Andrés (12,840 feet), lies in the Sierra de Oxumatlán, 62 km. east of Morelia.

Tertiary and Quaternary vulcanism has produced the major land forms in the Sierra (map 2). In age the volcanic forms range from probably Eocene to the present time. The oldest are massive composite volcanoes, the highest and most

[3] The chief scientific references on the Parícutin Volcano include Ordóñez (1945), Robles Ramos (1943), Pérez Peña (1946), Mexico City Universidad Nacional Instituto de Geología (1946).

133 prominent landmarks in the area: Cerro de Tancítaro (12,660 feet), Cerro de Patamban (12,300 feet), Cerro de Quinseo (10,800 feet), Cerro el Zirate (10,955 feet). The flanks of these [135] mountains are composed mainly of andesite with some pinkish rhyolite near the summits; small veins of mineral-bearing quartz sometimes occur within the andesite. Conical shape and radial drainage characterize these volcanoes, but most craters have been destroyed by erosion. Frequently erosion of soft consolidated ash situated between andesite flows has formed caves, which have acquired importance in Tarascan folklore.

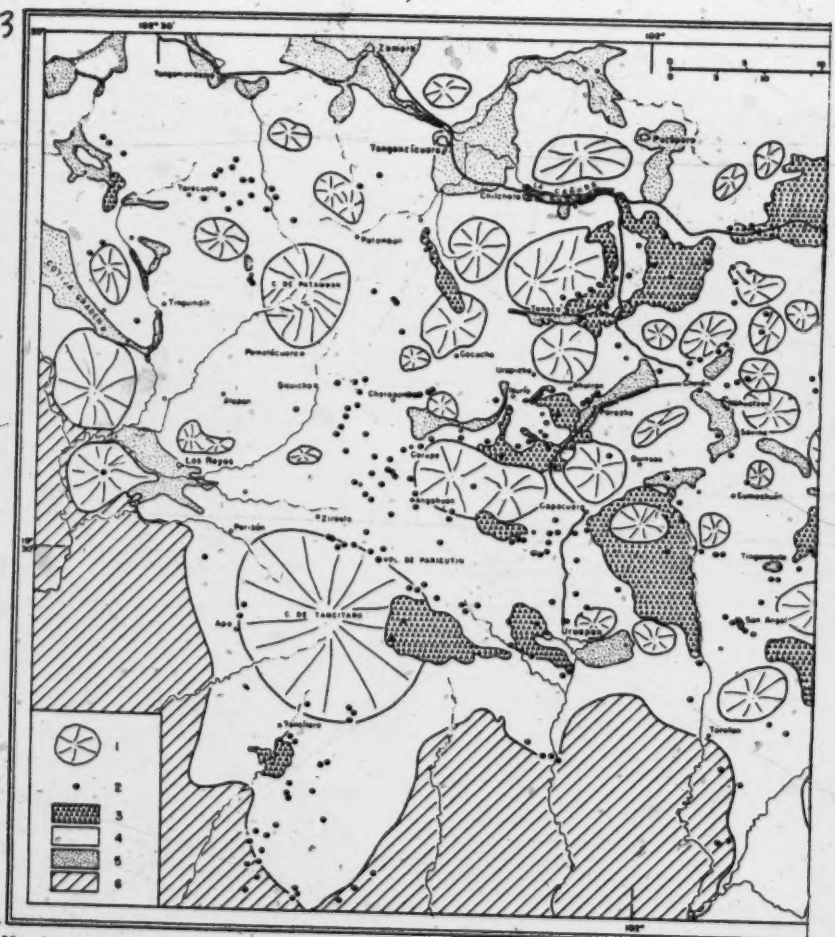
Cinder cones and lava flows, Pleistocene to Recent in age, represent the younger forms in the Sierra. The entire area is dotted with cones, 250 to 700 feet high, with no apparent alinement. Most are composed of semiconsolidated ash, cinder, and large blocks of explosion remnants. Two types of cones occur: (1) the symmetrical cone with a well-developed, flat-floored crater, and (2) the breached cone, with one side partially destroyed, initially by explosion or lava flow and subsequently by erosion. Some cones are ribbed by radial drainage; others carry scars of surface slips; owing to porous surface materials, a few show little effects of erosion, in spite of high (35°–45°) angle slopes.

Basaltic lava flows, originating usually from Pleistocene or Recent fissures in the sides of old volcanoes or occasionally from large cinder cones, have descended slopes in narrow corridors and have fanned out in wide expanses on gentle gradients. Fantastically rough surfaces characterize the flows, which form the Sierra's badlands—agriculturally unproductive and barriers to horse and wheeled traffic. Comparative age of the flows can be roughly determined by the degree of rock decomposition and character of vegetation cover. In some flows, such as that south of Pomacuarán, depressions and crevasses are partially filled with alluvium; large areas are covered with a thin soil mantle; sizable pines and oaks cover most of the flow. These features evidence a long period of exposure. In contrast, the rough, blackened, almost treeless *malpaís* northwest of Zacapu at the Sierra's northern edge, appears to be a much younger flow.

Volcanic activity in the Sierra has possibly been continuous from Eocene to the present day. Jorullo (1759) and Paricutin (1943) represent

[TEXT CONTINUES TOP of P. 39---- Analyst]

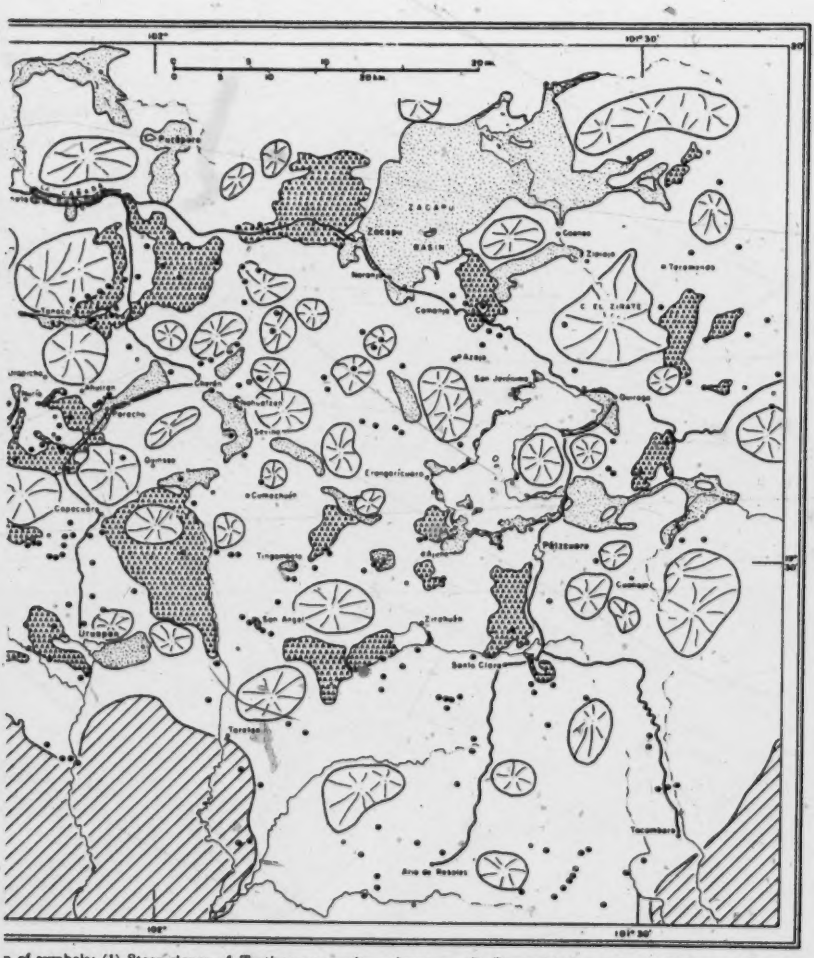
133



MAP 2.—Geognostic map of the modern Tarascan area. Explanation of symbols: (1) Steep slopes of Tertiary con (*malpais*). (4) Lower slopes of volcanoes, cols, mesas, small flattish basins of consolidated and unconsolidated s of stream alluvium and lacustrine deposits. (6) Highly dissected volcanic slopes of the southern escarpment.

[Facing page 2; section A]

133



n of symbols: (1) Steep slopes of Tertiary composite volcanoes. (2) Recent cinder cones. (3) Recent lava flows ish basins of consolidated and unconsolidated ash, cinder, and other volcanic debris. (5) Large flattish-floored basins volcanic slopes of the southern escarpment. Data from aerial photographs and field notes. 741808 O - 48 (face p. 2)

[Facing page 2; section B]

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 34]

133 historical examples of vulcanism within or adjacent to the area. However, vulcanism associated with human ancient settlement in the area, [172] is unquestionably evidenced by the occurrence of charred maize ears embedded in a basaltic lava flow 18 km. northwest of Morelia.[4]

Aside from land forms resulting directly from vulcanism, others caused by depositional processes occur within the Sierra. Between the old composite volcanoes and young cinder cones flattish surfaces have been formed first by ash and cinder fall and later by aeolian and alluvial deposition from surrounding slopes. Such surfaces, which compose only a small percentage of total land area, are the agriculturally important sections of the Sierra. Some form saddles or cols between adjacent hills; the larger plains form basins of interior drainage. The largest basins are Llano Grande, southeast of Charapan; the Plan de Nurío; that of Paracho, Aranza, and Cherán; the plain of Nahuatzen; of Sevina; of Paracho; etc. (map 2; pl. 1). Minor forms include dissected aprons of alluvium and semiconsolidated ash at the base of volcanoes and steep-sided arroyos eroded into alluvium in the upper parts of the basin plains.

One of the most characteristic physical features of the Sierra is the paucity of perennial streams and lakes. Although this is an area of moderate summer precipitation, the porous volcanic surface quickly absorbs most of the available moisture. A few permanent, spring-fed streams occur on the northern and western flanks of Cerro de Patamban and on the western and southern sides of Cerro de Tancítaro. Small springs occur on [312] the flanks of the old composite volcanoes, whose porous rocks form a reservoir of rain water. Such springs afford the sole water supply for many Sierra villages. Only on the edges of the Sierra plateau, at the contact of porous and impervious rock layers, do large springs occur.

The Lake area.—At the eastern edge of the Sierra exists a depression filled by Lake Pátzcuaro. Sierran geomorphology (young and old volcanic forms) almost surrounds the lake, but predominates on its northern, western, and southern shores. Twelve kilometers south of Pátzcuaro small Lake Zirahuén, within the eastern prong of the Sierra, appears to have been formed by a lava-blocked

[4] An excellent specimen of charred maize so imbedded is in the Museo Regional Michoacano, Morelia.

133 stream.[5] Both lakes present similar shore features—moderately steep banks alternating with wide, flattish delta fans.

In other respects the two lakes are distinct. Pátzcuaro is shallow (deepest point in the southern arm, 20 feet; in the northern part, 50 feet, in 1941); Zirahuén is relatively deep (148 feet, maximum sounding). Moreover, while the level of Zirahuén (6,953 feet in 1942) is relatively stable, that of Pátzcuaro (6,671 feet in 1942) has fluctuated frequently in historical times. Since 1939 the lake level has descended nearly 4 feet, exposing large areas of mud flats along the shore and revealing one new island (Pastora) near the southwest corner of the lake (pl. 1). In some places the descending waters have uncovered old tree stumps, indicating that formerly the lake level was even lower than at present. On the other hand, the western portion of the large lacustrine plain of Chapultepec in historical times formed an eastward extension of the lake's southeast arm, denoting a former level higher than the present one.[6] The cause of flucuation in level is not clear.

[132] De Buen (1944), judging from meteorological data (1939–43), has suggested a correlation between rainfall and evaporation variation on the one hand and lake surface fluctuation on the other. The excessive evaporation and low rainfall during those years likely affected lake volume, but normal precipitation and evaporation in following years have not halted the gradual decrease in lake level. Moreover, if fluctuation is caused by meteorological elements, one would expect neighboring lakes to be similarly affected. Periodic clearing and clogging of sublacustrine crevices, often associated with lakes of volcanic origin, is another popular hypothesis applied to Lake Pátzcuaro.

133 The lake contains 10 islets on which live some
361 of the most conservative of the Tarascan people—the fishermen. The four islands off the Tarıu-k'éri Peninsula (Pacanda, Yunuén, Tecuena, and Janitzio) are old volcanic hilltops with steep banks and, with the exception of flat-topped Pacanda, with little land suitable for cultivation. In the

[5] De Buen (1944) assigns the origin of all present and former lakes in the western portion of the Mesa Central to disruption of normal drainage by vulcanism. He also suggests that Lakes Patzcuaro, Zirahuén, Cuitzeo, and Yuriria were formed from portions of Rio Lerma drainage, since the fish *Chirostoma*, abundant in Lake Chapala and the Lerma, is found also in these lakes, the number of species decreasing from Chapala (10) to Zirahuén (2).

[6] The 16th-century map of Lake Pátzcuaro which accompanies the Relación de Michoacán (1903) clearly shows the former extent of the southeastern arm. At the time of the Conquest this section included the island of Apatzio, now a hill some 300 m. from the water's edge.

4: West K-5 (1946) 1948 NU34 Tarasco NU34
[P. 48]

[133] [361] shallow southern part of the lake lie Jarácuaro, the largest of the group, and the newly formed Pastora. (The former island of Copujo is now attached to the mainland.) Both islands are low, composed of semiconsolidated alluvial materials. Along the southern shore only low marsh now separates the Urandén islets (low volcanic hills) from the mainland (pl. 1).

The southern escarpment.—Although geologically similar to the Sierra, the abrupt southern escarpment, which forms part of the Mesa Central's southern wall, constitutes a distinct physiographic area. Pleistocene and Recent vulcanism continues from the Sierra to the Balsas and Tepalcatepec Rivers, Jorullo having been the most recent volcanic activity on the escarpment. The canyons formed by deeply entrenched spring-fed streams are the escarpment's salient features. Some barrancas exceed 500 feet in depth. The upper tributaries of the escarpment streams are eroding headwardly into the Sierra, capturing enclosed basins and intermittent water courses.[7] Above the barranca area shallow basins occur in the upper portion of the escarpment. Probably of volcanic origin, these flattish-floored valleys are now tapped by escarpment streams. Typical examples are the plains surrounding Uruapan, those below Peribán and Los Reyes, the valleys of Tingambato and Tacambaro, all important sites of former Tarascan settlement in the *tierra templada*.

The northern plateau area.—The former Tarascan area north of the Sierra forms part of the interior plateau county of Central Mexico. For the most part physiography is characterized by old volcanic hills and mountains separated by flat to rolling plains country. The part of this region formerly inhabited by Tarascans extends from Lake Chapala east to the Sierra de Ozumatlán and from the Sierra north to the Lerma River. (The low areas near the river and its tributaries are often termed the "Bajío.") A narrow belt of the hill and plains landscape also extends south from Lake Chapala to include the Cotija-Tingüindín area along the western side of the Sierra. Average elevations in the interior plateau decrease from 7,200 feet along the flanks of the Sierra de Ozumatlán to 5,000 feet at Lake Chapala. The

[7] For example, this phenomenon has occurred at the southwestern edge of the Sierra, where a tributary of the Tepalcatepec has apparently captured the drainage of the structural basin which runs east-west from Paracuaricutiro to Peribán.

133 higher hills and mountains rise 2,600 to 4,000 feet above the surrounding plains.

The young volcanic land forms found in the Sierra are lacking in much of the northern area, where the principal elevations consist of eroded composite Tertiary volcanoes. A few tongues of Recent lava flow from the Sierra into the northern edge of the plains, and cinder cones extend northward from El Zirate. Many lakes, some occupying structural basins, dot the northern area. The extensive sections of old alluvium, which form a good part of the plains, probably represent beds of Pleistocene lakes. At the northern and northwestern base of the Sierra many spring-fed lakes and marshes existed in historical times, e. g., Ciénaga de Zacapu, de Tangancícuaro, de Chapala, etc. The lacustrine basins and the borders of the former lakes and marshes were the major areas of Spanish settlement in the Tarascan North, for both afforded year-round pasture and sites for irrigated wheat farms. Some marshy sections [311] still exist, but natural desiccation and artifical drainage have converted much of the wet area to dry farmland. The once extensive chain of lakes in the Cotija graben, west of the Sierra, has almost completely disappeared, and the marshes of Zacapu, around which are grouped a few remnant Tarascan pueblos, have been converted into a large farming area.

A unique physiographic subarea of the northern zone, called "La Cañada," a narrow east-west depression at the northern base of the Sierra, is still one of the significant Tarascan regions. The valley floor, 10 km. long and [illegible] km. wide, decreases rapidly in altitude from 6,360 feet at its eastern end to 5,840 feet at Chilchota, near the western extremity (pl. 1). The western end of the valley is marked by an ancient lava flow, which once partially blocked normal drainage. Subsequent deposition of alluvium (possibly lacustrine) behind the lava dam has resulted in the present wide flattish floor of the valley's western half. Today the stream draining the valley flows subsequently through a deep gorge cut through the northern end of the lava flow. The numerous intermittent streams which descend from the adjacent hills have built up small alluvial fans along the valley sides. Like other areas at the edge of the Sierra, [312] La Cañada is favored by numerous large springs [361] issuing from fissures at the southern and eastern borders of the depression. Alluvium and water

4: West K-5 (1946) 1948 NU34 Tarasco NU34

133 [312] [361] have attracted human settlement to the valley since prehistoric times. Sierra Tarascans, who call La Cañada "Erášemen" (view from above), [102] probably visited the valley for chile and early maize before the Spanish Conquest. Spaniards immediately seized the well-watered plains near Chilchota for wheat fields. Today La Cañada is a garden spot of orchards and wheat fields amid rocky volcanic hills.

CLIMATE AND VEGETATION

132 **Meteorological data.**—In dealing with meteorology, northwestern Michoacán will be treated as a whole; attempts will be made to point out regional differences in temperature and rainfall. Meteorological stations in the area are few; data are entirely lacking for the Sierra. Consequently, only general statements can be made concerning the weather and climate of modern Tarasca.

133
137

PLATE 1.—Pleated landscape. a, Portion of a Sierra basin near Arantepacua. b, Southwestern part of Lake Pátzcuaro; Jarácuaro Island and newly formed Pacanda Island, upper center. c, Cultivated floor of cinder cone crater near Charapan. d, Lake Pátzcuaro, looking northward; note volcanic islands in middle of lake and the Urandén lakes immediately off shore. e, Mixed pine-oak forest at edge of maize field, Charapan. f, La Cañada, looking westward, or down valley.

[End-plate 1]

312
342
133
361
363

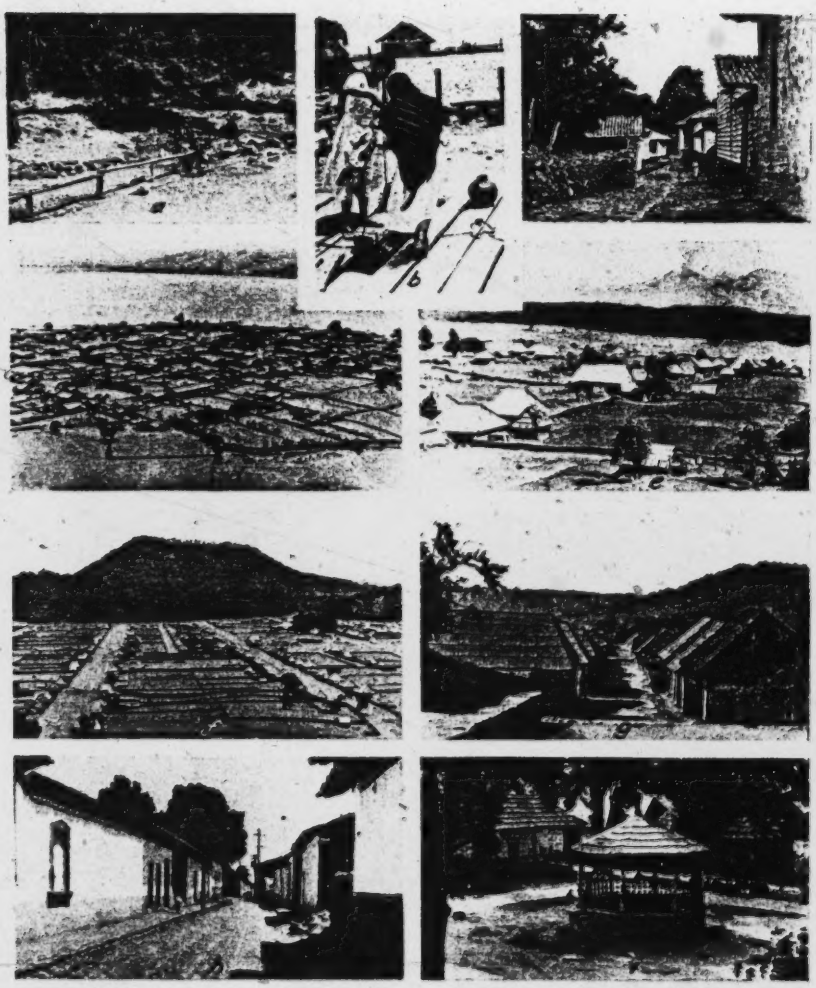
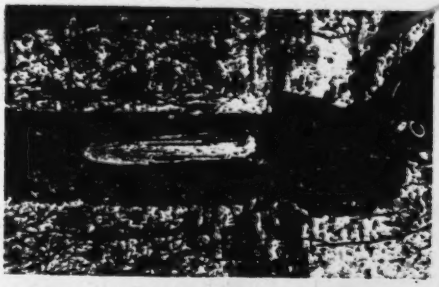


PLATE 2.—Water supply and settlement. *a*, Wooden aqueduct at Pamatácuaro, which brings water from the local spring (center) to the outskirts of town. *b*, Hoisting water from one of the public wells in Charapan. *c*, Street in Ihuatzio, Lake Pátzcuaro. *d*, Panorama of San Jerónimo on Lake Pátzcuaro, showing compact assemblage of adobe structures. *e*, Partial view of Zacán near Paricutín Volcano (background), showing grid street pattern, scattered dwellings, and large lots. *f*, Los Conejos (San Juan Nuevo), founded in 1944 to house refugees from destroyed San Juan Parangaricutiro. Nearly all trees were transported from old San Juan and reassembled on the new site. *g*, Street scene, Charapan (Sierra). *h*, Street scene, Trinidero, Basque Spain. *i*, Plaza at Charapan.

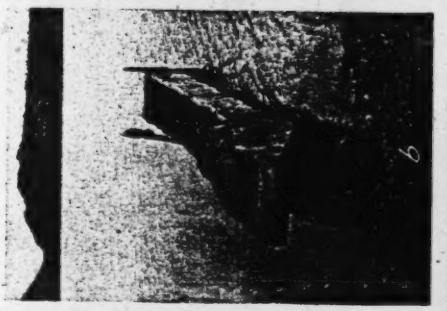
[End-plate 2]

[314]

[133]



[501]



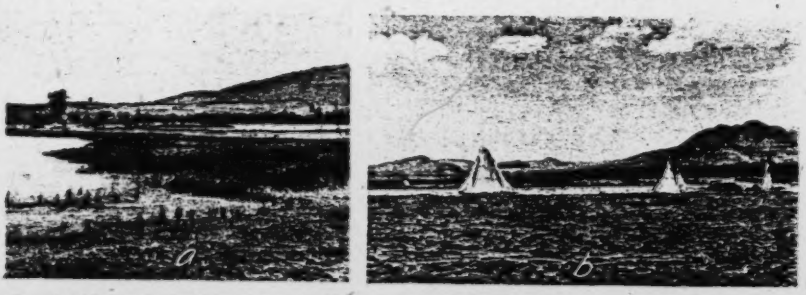
[227]

[313]

Plate 8.—Drying reed mats and sails. 1, Chinkuro reed drying on La Pacanda Island, Lake Pátzcuaro. 2, The small Pacanda dugout, Lake Pátzcuaro. Note paddles attached to rear of canoe. 3, Close-up of palm-leaf sail from Lake Chapultepec. The ends have been tied to the two masts. 4, The small Pacanda dugout with sail drying. Note paddles attached to rear of canoe. 5, Close-up of reed sail from Lake Chapultepec. 6, Reed sail between Tarascan huts and Tarascan church, Ihuatzio, near Pátzcuaro. 7, Drying reed mat between huts and Tarascan church, Ihuatzio, near Pátzcuaro. 8, October boat between huts and Tarascan church, near Pátzcuaro. 9, Close-up of Chinkuro reed mat on Isla de Yunuen, Lake Pátzcuaro. 10, Drying reed mat, Isla de Yunuen, Lake Pátzcuaro. 11, Nursing chinkuro mat, Cuyacuaro. 12, Chinkuro mat, Isla de Yunuen, Lake Pátzcuaro.

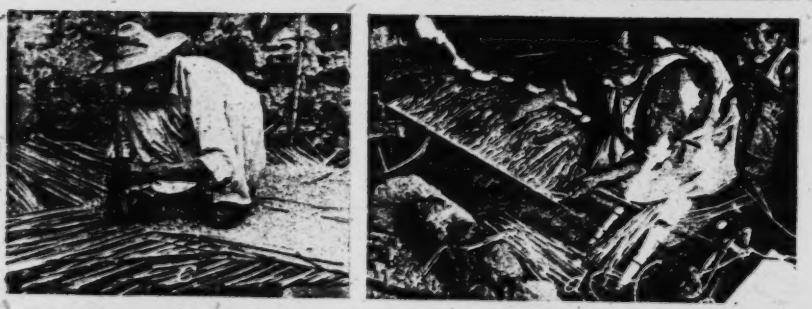
[End-plate 8]

249
133



285
291
516

[294]



[531]

[415]

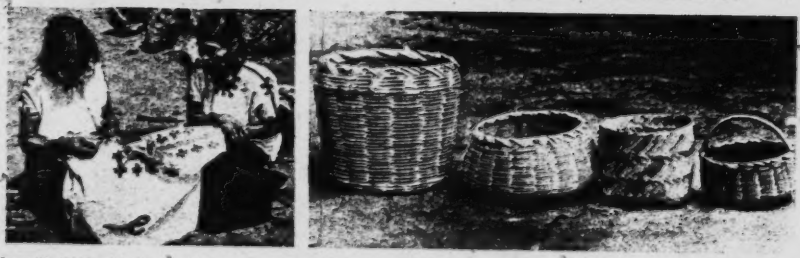


PLATE 12.—Tortillas. *a*, A milpa of tule along the shore of Lake Pátzcuaro, between San Jerónimo and San Andrés. Many potato makers own their own milpas, but sometimes portions of the tzakua are leased to tule sellers, who harvest the reeds and distribute them to various villages around the lake. A, Harvesting tule, Jarácuaro Island, Lake Pátzcuaro. After partially drying in the sun, the reeds are bundled into canopies and stacked in shocks. *c*, Weaving petates. Illustrate. Note the wooden mallet on the mat near the man's hands. *d*, Making enpotes, Arantepacua. Work is done inside the kitchen. Note the hearth, lower left. Palm leaves are kept moist by dipping them in the holes of water at left. *e*, Embroidering a huipil, or blouse, Tzurumútaro. *f*, Baskets woven at Tzintzuntzan. The large one (left), called *tzitze*, is used to carry bread and fruit. It is usually transported on the back in the uyata. The lid-covered basket in center, called *p'ákitza* and is used to carry fish and tamales. The tortilla basket is a thatsal (the Tarascans call it "*tzentle*") for tortillas. The bundled basket at the right (simply named "*tzanata*") is for carrying eggs, pitanzillo, and other fish.

[End-plate 12]

11: Boyd H-4, 5 (1953) 1958
NU34 Tarasco NU34

ten of the *Once Pueblos* of pre-Conquest days.

South of La Cañada stretches an elevated area of high mountains which cradle wide and fertile valleys. This is the fabled La Sierra country.

East of La Sierra the land falls away to the lower elevation of the lake country which includes the basins of Lake Cuitzeo and Lake Pátzcuaro. The latter, horseshoe in shape with the curve at the west and the two prongs to the east, has its northern and western shores dotted with Tarascan villages. Within the fastness of the lake lie three important Tarascan islands: Janitzio, an astonishingly enormous rock rising high above the blue expanse, with its picturesque fishing village clinging to one side; Jarácuaro, wide and flat, with its village of hat weavers; and La Pacanda, high and flat, with its farms sitting up above the water's edge.

These areas form the solid nucleus of the Tarascan country, whose people, with surprising vigor, resist outside influences threatening to destroy their traditional way of life.

This is a hilly country with conifers on the highest slopes. The lower hills are starred in the summer rainy season with bright red, clear yellow, and delicate violet wildflowers. Michoacán does not become drab even in the dry season, but rather takes on the colors of old tapestries. Its soil is reddish or saffron, its houses dusty white to deep gray, its roofs brownish red, and its lakes azure blue.

Into this area came the ancestors of the Tarascans sometime between the seventh and twelfth centuries of our era. The German scholar Seler (1908, p. 33), in his interpretation of a questionable sixteenth-century codex called the "Lienzo de Jucutacato," argues that they entered the region in the seventh century, but archaeological evidence does not seem to support such an early date. Certainly by the twelfth century they were located in the Lake Pátzcuaro region, in Zacapu, and in La Sierra at Patamban and Tarecuato (Fig. 1).

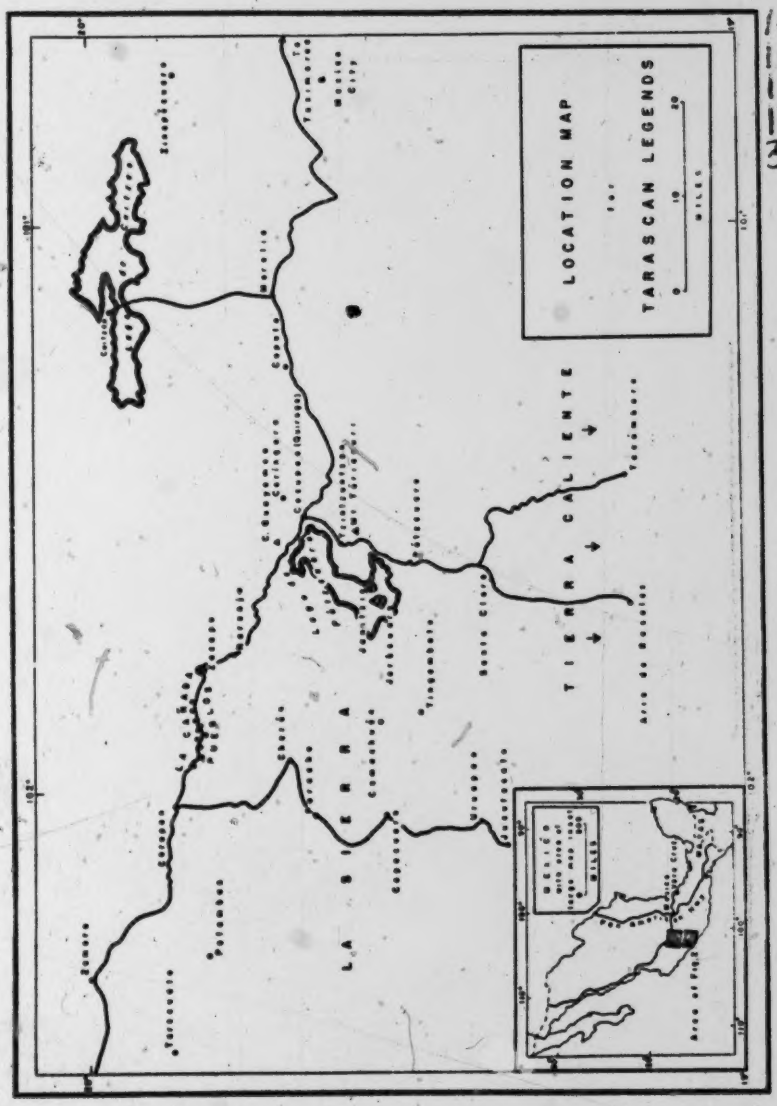
In olden days the Tarascans were fierce fighters who, over a period of time, forged an empire which successfully repulsed attacks by Aztec armies. It was their hatred of the Aztecs that

[Text continues on p. 4]

11: Boyd H-4, 5 (1953) 1958
NU34 Tarasco NU34

[P.3]

INTRODUCTION



102
103
13
133
36

Fig. 1. Map of the Tarascan Area.

11: Boyd H-4, 5 (1953) 1958
NU34 Tarasco NU34

of the town of Cuitzeo; the other stories were told by Manuel Valenzuela, a former guide around Tzintzuntzan, in his uniquely exciting, urbane style.

Told and retold for generations in their native tongue, these tales were rendered orally in the Spanish of the region and translated into English by the author.

The stories have a continuity dating back to the sixteenth century (Ruiz, 1940). The exact phraseology varies with the individual narrator, and his rendition usually conforms to the peculiar orientation given by his native pueblo. Some of these legends were published in Spanish by Ruiz in 1940, but this presentation represents their first appearance in English. The Ruiz versions are more elaborate than those presented herein and thereby form an interesting comparison.

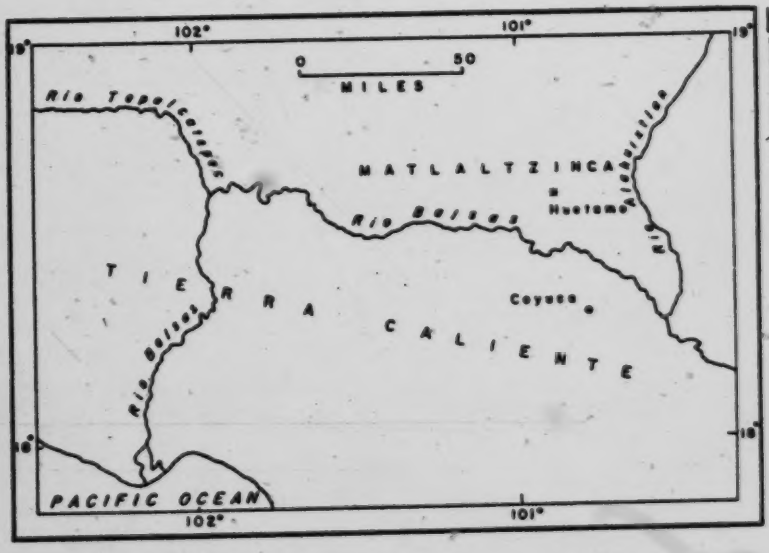


Fig. 2. Map of the Tierra Caliente of Michoacán

11: Boyd H-4, 5 (1953) 1958
NU34 Tarasco NU34

THE LEGEND OF LAKE CUITZEO

Historical Comment

539 On the main highway leading northwest from Mexico City to
131 Guadalajara, an arterial road leads off to the north at Morelia and
103 passes by Lake Cuitzeo and the pueblo of the same name (Fig. 1).
133 Like all Mexican lakes, Cuitzeo is annually shrinking in size.
823 Nevertheless, the inhabitants of the tiny pueblo will gladly tell you the story of their once-proud lake which formerly resembled a heart.

539 This story belongs to a period of instability and planned war-
175 fare between the late twelfth and early fourteenth centuries. Spies
648 were sent into the lands of the snake-Chichimecs, located east of
721 Lake Pátzcuaro at Curínguaro, to learn the paths, river crossings,
726 and other data essential to a successful compaign.

Warriors went to battle with wreaths of flowers and plumes of eagle feathers on their heads. The lord in command would set out with a war party made up of columns of warriors. This traditional method of journeying to battle appears in the Cuitzeo legend.

The Legend

539 Under the protective rays of the Southern Cross, those divine
823 guiding stars, Cueróhperi created a garden. The goddess created crystalline rivers in the countryside of Guayangareo and placed the faithful Mount Manuma as the guardian over the region.

In this garden the princess Hapunda lived as a recluse by order of her father. Each morning Father Huriata's first rays of light gently awakened her with a kiss on the forehead. She was so lovely that her subjects called her "Tzinziquin." Always sad and melancholy, her tears flowed as profusely as the waters of the springs forming the rushing river which fell over the nearby cliffs and crashed against the rocks blocking the pathway into the lower valley. The relentless waters penetrated the rock, but the tears of Hapunda did not move the hearts of the gods, and she vainly

11: Boyd H-4, 5 (1953) 1958
NU34 Tarasco NU34

poor have only pain and sorrow. The poor is our brother; the rich is our master. Love the poor; he is of our race. The rich is the foreigner; he pays us with sarcasm and jokes. Remember always that he who suffers and cries needs your help. These are the maxims of love.

THE LEGEND OF TACAMBA

Historical Comment

All the drainage of southwestern Michoacán is southward to the Balsas river, the heart of the tropical region. This area was in pre-Spanish times seemingly under Tarascan domain (Osborne, 1943). Coyucán, mentioned in the legend of Tacamba as being one of the seats of Tarascan power at the beginning of the sixteenth century, is probably the town of Coyuca, a scant thirty-five miles south of present Huetamo (Fig. 2). At the time of the Conquest it was still an area of dispute between the Tarascans and the Aztecs, although both sides were temporarily at peace.

The wars between the Tarascans and Aztecs over this area accounted in large part for the refusal of Siguangua and Tzimtzicha to lend Tarascan support to the Aztecs against the Spaniards, thereby enabling the conquistadores to defeat both empires separately.

Tacamba, like Camachuén of the preceding legend, was one of the vassal princes of the Tarascan empire under King Siguanga and Tzimtzicha, his successor, at the time of the coming of the Spaniards. The death of Siguangua is accurately preserved in the body of the legend. In the first year of the Spanish arrival on the borders of Michoacán, smallpox and dysentery brought by Spanish messengers struck the Tarascan capital killing the king and his chief priests. The epidemic continued to take a terrible toll among the native population, weakening the Tarascans for the Spanish Conquest.

11: Boyd H-4, 5 (1953) 1958
NU34 Tarasco NU34

The Legend

173
539
735

Tacamba resided in one of the most colorful sites of the Tierra Caliente, that florid region which marks the descent of the sierra as it breaks away in a spectacular fashion toward the Pacific coast.

Tacamba, a descendant of the legendary Hirepan, was one of the four chieftains of the Michoacán alliance. His kingdom was the richest and most fertile of the four provinces comprising the Tzintzuntzan empire. His capital city of Coyucán, the city of the eagles, sat on the edge of the river that flowed through the luxuriant tropical growth to Zacatula.

The prince was a young man. His tall, willowy stature reminded one of the tropical plant whose name he bore. His countenance was calm and profound, like the brilliance of a star on a calm, clear night. He had spent his life in the tranquility of Coyucán and in the hostilities of the army. At times his life had been like the gentle winds which wove their course through the pines; on other occasions he had lived as violently as the hurricane which pushes aside the oak that falls in its invincible path.

Generous and magnanimous by nature, he did not enjoy war. Nevertheless, when the chief of the quadruple alliance sought his help, Tacamba was the most prudent in council and the most valiant in combat. In spite of the demands of the priests, he never caused a single captive to climb the stairs leading to the sacrificial altar.

During the epochs of peace, this prince taught his people how to improve upon their cultivation of the fertile land in the kingdom and how to advance the rudimentary hand industries which had begun throughout the land.

From time to time Tacamba moved his court to a small valley bearing his name. He had constructed a walled castle on the bluff overlooking the crystalline alberca of Chupio, famous for its nightly visit by the sirens who came by a secret canal from the ocean to sing.

This fortress, situated on the elevated heights, offered a splen-

11: Boyd H-4, 5 (1953) 1958
NU34 Tarasco NU34

[End Plate I]

●133

133
361

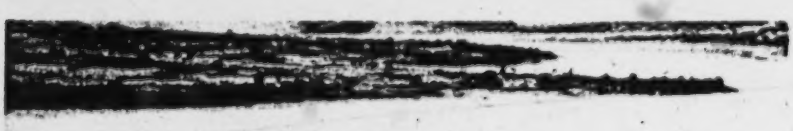


Plate I. Views of Tarascan Countryside

[115] *Upper*, looking towards village of Copula, home of Luis Espinosa, one of the narrators.

Lower, looking across Lake Pátzcuaro from top of island of Janitzio.